Gates Foundation Project

South Dakota's
Technology for Teaching and Learning: School Administrators (TTLSA)

Purpose

The South Dakota Department of Education and Cultural Affairs and its collaborative partners seek funding from the Bill and Melinda Gates Foundation to refine and expand current efforts to promote effective school leadership in South Dakota schools. Through this initiative, every principal and superintendent in South Dakota—from both public and non-public schools--will have access to high quality leadership development training with a focus on systems change and integration of technology into curriculum and school design. The goal of this ongoing effort is to develop leaders with the capacity to significantly impact student achievement in the broader context of a rapidly changing, information-rich society.

Partners in this project include Technology and Innovations in Education (TIE), a statewide non-profit organization created to provide leadership in the effective integration of technology in schools; School Administrators of South Dakota (SASD), an umbrella organization comprising school superintendents, secondary school principals, elementary school principals, directors of special education, school business officials, and curriculum leaders; and the South Dakota Association of Supervision and Curriculum Development (SDASCD), a local affiliate of international ASCD; and the University of South Dakota.

Background/Connections to Statewide Initiatives

Technical Infrastructure

Until recently, most South Dakota schools, educators and students were restricted in their access to technology resources and telecommunications because of remote locations, fifties-era construction, and tight school budgets. Responding to this dilemma, Governor Bill Janklow created the ***Wiring the Schools Project (WTS)*** in 1996. This initiative was designed to ensure that every school in South Dakota had the infrastructure in place to support computers in every classroom, network capabilities, and affordable telecommunications

and local “points of presence” for high bandwidth connections. Teams of inmates from South Dakota prisons were trained in electrical and network installation. The result is that all classrooms in all K-12 schools in the state are now wired for multiple work stations. In addition, many individuals have left the corrections system with training, credentials and experience for high-wage, high-demand jobs.

The ***Connecting the Schools Project (CTS)*** is a follow-up to the Wiring the Schools Project. WTS established a solid LAN and electrical infrastructure within school buildings across South Dakota (http://cts.state.sd.us/) . CTS is building on that foundation to create a statewide video and data intranet to improve the educational opportunities for all South Dakota students. CTS has three distinct phases:

1) Equipment seeding is a one-time distribution of hardware and software to ensure that schools have a quality, local area network infrastructure to build on. Schools received Destination machines for whole-class display of computer images and high-end servers to improve capacity.
2) The statewide network infrastructure--Digital Dakota Network (DDN – www.ddnnet.net)--provides a frame relay or ATM T1 to approximately 400 public school buildings in the state. The general rule is that elementary schools (K-6) receive frame relay and that grades 7-12 receive ATM. The frame relay circuits deliver data communications (internet, world wide web, e-mail, etc.) and the ATM circuits deliver data and video (H.320 based). VTEL (http://www.vtel.com/) LC5000 video room systems are being installed in the eligible distance learning classrooms. E-mail and web hosting services are also being provided. Dakota State university is providing these services under contract to the CTS project. Distance learning capabilities are current available and are beginning to be used in the fall of 2000.
3) An Office of Educational Technology has been established within the Department of Education and Cultural Affairs to provide training and troubleshooting in the use of the Digital Dakota Network and other technologies. (http://www.state.sd.us/deca/technology)

Focus on Student Achievement

Governor Janklow has challenged schools to improve student achievement through a number of statewide initiatives over the past several years and through publicly reported achievement test results.

Content standards in language arts, mathematics, science and social studies were developed and revised several times in an effort to provide consistent, rigorous achievement targets for South Dakota students. All districts are now required to align curricula with content standards and the State Department of Education is currently piloting voluntary criterion referenced tests to help schools measure their progress toward meeting these

Statewide efforts to improve student writing and early literacy are also underway. A performance based writing assessment for students in grades 5 and 9 was added to the state's assessment program in 1997 and a statewide cadre of teachers has been trained to provide professional development in the effective teaching of writing across the curriculum. Beginning in the fall of 2,000 and extending over a three-year period, all first and second grade teachers in South Dakota will participate in 30 hours of professional development in the effective teaching of reading and writing to young children.

While slow and steady achievement gains are being made, according to statewide measures, too many students are still underperforming. In particular, American Indian students in South Dakota generally rank below both state and national averages and are at high risk of dropping out of school.

All technology initiatives are designed to support these ambitious programs for improving student achievement statewide. Early research shows the positive benefits of technology to engage students, to support basic skills, and to provide new learning environments where student collaboration and the development of high-level research and critical thinking skills are more accessible to all students, especially those in remote rural areas like those in South Dakota.

Professional Development: School Improvement and Technology Implementation

In 1997, Governor Janklow initiated ***Technology for Teaching and Learning (TTL)*** academies, an ambitious professional development initiative for South Dakota teachers. Convinced that small, intermittent doses of technology training for teachers were inadequate to produce proficient technology users, he proposed the design of a year-long program. The program includes a 20-day summer immersion institute and a series of follow-up activities that span a 12-month period. The Governor leveraged federal funds (goals 2000 and Technology Literacy Challenge Fund) to support TTL. Technology and Innovations in Education (TIE) was identified by the Governor to provide leadership and coordination for TTL. Three public universities and a post-secondary technical Institute have hosted the TTL summer immersion sessions. They are Dakota State University in Madison, Black Hills State University in Spearfish, Northern State University in Aberdeen, and Southeast Technical Institute in Sioux Falls

The purpose of the TTL academies is to establish a cadre of highly trained teachers across the state who

- actively change teaching and learning in classrooms through the

- assist fellow educators in learning how to use technology to enhance the teaching/learning process.

In 1999, the ***TTL Academies for School Administrators (TTLSA) and for Network Administrators (TTLNA)*** were added to the roster of summer professional development activities. The 10-day school administrators session was designed to provide school leaders with the knowledge and skills to support the efforts of teachers in integrating technology into teaching and learning. TTLNA was designed to provide training to school technology coordinators and others responsible for creating and maintaining connectivity in schools and troubleshooting technical problems.

LOFTI (Learning Organizations for Technology Integration) is a US Department of Education Technology Challenge Grant funded to South Dakota. This K-16 statewide professional development initiative has the following goal: South Dakota educators will gain the knowledge, skills and abilities essential for teaching and learning in the Information Age. The International society for Teaching and Learning (ISTE) provides the basis for LOFTI outcomes:

* South Dakota educators will understand and demonstrate basic technology operations and concepts (skills).
* South Dakota educators will use technology to enhance their professional growth and productivity (knowledge).
* South Dakota educators will apply technology in educational practice, resulting in student attainment of challenging state standards (abilities).

Telecollaborative curriculum development, statewide training for both pre and in-service teachers and administrators, and policy revision and development at the Board of Regents and State Department of Education are major activities in the LOFTI work.

Discover South Dakota is a web-based collaborative curriculum project with three focus areas:

* Student participation in telecollaborative learning experiences keyed to state and national academic content standards relevant to the study of South Dakota.
* Teacher professional development experiences, based on the Discover South Dakota curriculum and designed as a multiple delivery approach or a "web model of professional development," which includes face-to-face, online, video-conferencing, expert mentors, and print materials.
* Leadership professional development experiences for principals of schools implementing Discover South Dakota. The design for this activity is project-embedded, problem-based learning organized around seven topics aligned with the Discover South Dakota curriculum and professional development needs. These topics include problem-based learning, technology issues, principles of engaged learning, leadership, action research, professional development, and organizational capacity. Principals participate in this activity in concert with Discover South Dakota curriculum implementation in their schools and all

The Annual TIE (Technology in Education) Conference is conducted in the spring at locations alternating between Sioux Falls and Rapid City, the state's two largest cities. This three-day conference consists of in-depth pre-conference sessions, internationally known keynote speakers, and dozens of breakout sessions on a wide array of technology-related skills and issues. A leadership strand will be developed for all future conferences as a part of this proposal.

The first Systems Change Conference for school leaders will be conducted this October. The plan is to continue this conference annually in the fall at locations alternating between Sioux Falls and Rapid City. This conference is specifically designed for school leaders and features sessions both keynote and breakout sessions on all as aspects of systemic school reform.

All of these initiatives show South Dakota's commitment to professional development in the areas of systems change and integration of technology into curriculum and school design. The Gates Foundation Challenge Grant for Leadership Development will strengthen and expand these efforts, particularly in the critical areas of school leadership development.

Needs Addressed by the Proposed Project

Research

Research on school improvement and technology implementation (Hawkins, Spielvogel and Panush, 1996; Lemke and Coughlin, 1998; Rockman, 1998; SEIR*TEC, 1998; TERC, 1996; ACOT, 1995) suggests that there is a set of essential enabling conditions that must be in place in schools and districts for most teachers to use technology effectively:

Building on the work of the Milken Seven Dimensions, the North Central Regional Educational Laboratory (NCREL) and the Metiri Group identify these enabling conditions as 1) a forward-thinking shared vision; 2) effective teaching and learning practices; 3) educator proficiency in digital-age skills and processes, instructional design and assessment; 4) digital age equity; 5) robust access anywhere, anytime; and 6) systems leadership.

The critical role of school leaders in fostering these essential conditions in schools is well documented in educational literature. In particular, according to the Milken work, "Many of the opportunities for significant change in the way that schools innovate through technology are directly linked to change in the school culture. If teachers are expected to try new approaches to learning and to stretch the limits of what is possible when applying technology to learning, they must feel that they are operating within an environment that values experimentation and learns from failure. If students are to work collaboratively, the school culture must model and value collaboration. If technology is to be woven transparently into the daily activities of classrooms, the use of that technology should be

Administrator competencies

The Milken Exchange document goes on to outline four specific administrative competencies required to promote these enabling conditions in schools. These competencies will serve as outcomes for this project and will inform all leadership development activities.

1) Administrators at the building and district model the effective use of technology in support of learning and administrative functions.

2) Administrators are able to initiate and support professional development processes that reflect attention to principles of adult learning.

3) Administrators are competent in leading and managing systemic change processes at the classroom, school and/or district levels.

4) Administrators maintain a solid knowledge of the applications of technology to student learning.

Like students and teachers, school administrators have diverse professional development needs. Competence is acquired in stages as it is for all other learners. While nearly 200 school principals and superintendents have already participated in the summer TTLSA academies over the past two years, the primary focus of this training has been on the development of technical skills. For some administrators, TTLSA was their first experience in technology use. For others, it offered the opportunity to hone technical skills and to plan for the use of technology to enhance their own productivity. During TTLSA, issues regarding teacher professional development, systemic reform and applications of technology to student learning were addressed, but not in depth. In addition, resources were not available to provide follow-up training and/or support for administrators who had gone through the two-week academy, a critical component of effective professional development which is more likely to result in application of knowledge to effective practice.

Universities and School Administrators of South Dakota (SASD) have also provided leadership development opportunities for principals and superintendents across South Dakota. Conferences, classes and workshops are periodically conducted on a wide variety of leadership topics.

Though all these professional development efforts are an important beginning, they lack unity, coherence and long-range, systematic delivery. The Gates Challenge grant will enable the collaborative partners to come together to design a sustainable, multi-faceted leadership development program tailored to the needs of administrators at all levels of competence.

Project Goal

and private schools throughout South Dakota with access to quality leadership development focused on whole systems change and technology integration. An estimated 450 South Dakota school leaders—approximately 75 percent—will participate in a variety of leadership development experiences over the next two years. Fifty school leaders statewide will participate in specialized, advanced training to prepare them as mentors to colleagues in the field.

Project Activities and Rationale

All activities to be developed for this professional development plan will target the four administrator competencies for leading effective school improvement and technology implementation identified by the Milken Exchange (see page 5) and will be delivered through a combination of face to face, web-based interactive, and video interactive technologies. Specifically, these experiences will be designed to move school leaders forward along a continuum describing three stages of technology implementation in schools.

Stage one, Entry: Educators, students and the community are aware of the possibilities, yet learning, teaching and the system remain relatively unchanged by technology.

Stage two, Adaptation: Technology is thoroughly integrated into existing practice.

Stage three, Transformation: Technology is a catalyst for significant changes in learning practice.

All activities will be designed on the basis of effective adult learning principles. Specifically, activities will involve hands-on, minds-on use of the technology; collaborative dialogue among colleagues; and application of skills in the context of administrator professional responsibilities, to include, specifically, data-driven decision-making.

Specific Tasks and Timelines

1. Hire project coordinator/trainers by January 1, 2001

   Rationale: In order to develop the leadership curriculum and coordinate training activities for 450 school administrators, one new full time curriculum/technology specialist from Technology and Innovations in Education (TIE) and one new full time curriculum/technology specialist from the Office of Technology, Department of Education and Cultural Affairs will be hired to partner with existing DECA and TIE personnel to design and deliver the program. This configuration of key project leaders will strengthen the partnership between the two organizations and will facilitate sharing of information, resources and expertise. One currently employed DECA

integral part of the instructional delivery system in this project. One currently employed TIE education/technology specialist will work with other project leaders to design appropriate sessions for the fall Systems Change Conference and the leadership strand of the spring TIE conference, which project participants will attend.

2. Revise curriculum for TTL for School Administrators by March 1, 2001. This revision will include a follow-up component to the 10-day immersion academies to be conducted during the summers of 2001 and 2002. More emphasis on issues of whole system improvement, research-based teaching and learning strategies and integration of technology into curriculum and school design will be included in the TTLSA curriculum. TTLSA participants will take part in the TAGLIT (Taking a Good Look at Instructional Technology) data collection process and during follow-up activities, will analyze the data for their schools/districts and will create an action plan to address weaknesses.

   Rationale: The creators of the TTLSA academy have already established the need for curriculum revision. While technical skills and an administrator's ability to model effective technology use are important, opportunities for significant change within a school depend also on a leader's abilities to initiate and support professional development, understand and manage systemic change processes and acquire a solid knowledge of the applications of technology to student learning. These topics will receive greater attention in the revised TTLSA curriculum. A follow-up component will also be structured into the TTLSA course to ensure the application of skills learned in the school setting and implementation of a use plan created during the academy. Follow-up sessions will make use of web-based and video-conferencing technologies and will include online discussions and group problem-solving tasks.

3. Develop a curriculum for TTL for School Administrators mentorship program by June 1, 2001

   Rationale: Nearly two hundred school administrators have already taken advantage of the basic TTL for school administrators. Twenty-five percent of these participants will increase the breadth and depth of their knowledge about effective school leadership and technology integration by having the opportunity to participate in a TTLSA mentorship program which will include in-depth study and action planning on following topics: professional development models, including video and on-line delivery; best practices in curriculum, instruction and assessment; data-driven decision-making; and leading collaborative work cultures. All training will be designed to actively engage participants and to help them transfer knowledge and skills learned to the school setting. With this additional training, advanced participants will also be ready to serve in a mentoring capacity with their colleagues in the field

on-one relationships built through this mentoring model will encourage reluctant or ill-prepared administrators to begin their professional development journey and will provide additional support for administrators who have already taken the basic TTL for school administrators and wish to continue their studies.

4. Develop a professional development delivery model and course content for field-based administrators and their mentors by June 1, 2001. Instructional delivery will include a combination of face-to-face experiences, web-based activities, and interactive video conferencing using the Dakota Digital Network/Vtel system. Two, two-credit graduate courses (one for beginners, one for advanced learners) will be developed and scheduled over the course of the entire school year. Each course will provide 30 hours of professional development related to the four competencies for school technology leadership outlined in the Milken work. Required course activities will include attendance at one of two annual conferences sponsored by Technology and Innovations in Education: The fall Systems Change Conference, which is targeted at school leaders and features keynote and breakout sessions systems thinking and organizational change; OR the spring TIE Conference, which is targeted at all educators but will, over the next two years, include a specially developed strand specifically for school leaders based on the Milken competencies for school administrators.

   Rationale: Many school principals and superintendents are either unable or unwilling to schedule two full weeks in the summer away from home for professional growth. Field-based activities are not intended to replace TTL for school administrators but to offer some individuals other alternatives. TTLSA mentors will be assigned to recruit nearby colleagues into the courses and into the mentoring relationship. Advanced studies will be designed to include the same content included in the TTLSA mentorship class. Activities in both classes will be scheduled throughout the school year.

5. Conduct two sessions of TTL for School Administrators in the summer of 2001.

   Rationale: Successful implementation of TTL for school administrators which began two years ago should continue. Each of the two, 10-day sessions will accommodate 50 principals/superintendents. Graduate credit* and all expenses will be paid in order to provide incentives for attendance.
   *A note about graduate credit: Past experience has showed that the awarding of graduate credit for leadership training activities provides a powerful incentive for attendance. All school administrators in South Dakota must renew their certificates every five years through a combination of six hours of college coursework and other professional development activities. Graduate tuition rates at South Dakota universities is $144.74 per credit hour, so administrators taking advantage of TTLSA are earning the equivalent of $434.22 in tuition costs.

6. Conduct one 5-day train-the-trainer mentoring session for school administrators who have previously taken the 10-day TTLSA session (see activity #3) in the summer of 2001.

   Rationale: Twenty-five participants selected through an applications process will be trained to function as local/regional mentors and field-based liaisons with project coordinators. Each mentor will encourage reluctant administrators in the field to participate in beginning professional development activities and will support approximately six colleagues during the following school year as they participate in beginning or advanced training activities. In addition, this cadre of mentors with advanced training in effective technology leadership will be an invaluable source of expertise, not only in their own schools, but also across the state. Graduate credit and all expenses will be paid in order to provide incentives for participation in the mentorship training. In addition, as an incentive, each mentor's school will receive $1,000 which the mentor may use toward the purchase of hardware and/or software to assist in his/her mentoring responsibilities. Mentors will attend either the fall Systems Change Conference or participate in the leadership development strand of the spring TIE Conference along with their mentees.

7. Conduct pre-conference institutes prior to the annual state superintendent's conference in July and prior to the annual joint convention of school administrators and school board members in August. These day-long institutes will be customized to meet the needs of group members and will, like other project activities, be informed by the four administrator competencies outlined in the Milken seven.

8. Recruit principals and superintendents to participate in the TTLSA field-based mentorship program by September 1, 2001.

   Rationale: Collegial relationships among school administrators are invaluable in promoting professional development. Mentors will make personal contacts with their colleagues in nearby locations who have failed to take advantage of the TTLSA academy training. Mentors will encourage participation of these school leaders in coursework
   designed to enhance leadership skills and will maintain a mentoring relationships with them throughout the school year.

9. Repeat all professional development activities in year two of the project beginning with two, 10-day TTL for School Administrator sessions in the summer of 2002.

Evaluation

The evaluation process will be structured using an Empowerment Evaluation approach

1) The output of evaluation is organizational learning.
2) Evaluation is a developmental process, not a report card.
3) Evaluation is everybody's job. Everyone in the organization gathers information and asks the question: What can we do to improve?
4) Evaluation is not an event but a process, not episodic but ongoing, not outside the organization but ingrained in its day-to-day operations.
5) Collaborative relationships exist from the onset of an evaluation process and all parties seek to learn how the organization can solve a problem or deal with an issue more effectively.

This approach to evaluation is based on a model of ongoing collaborative action research. It demands frequent and open communication among participants and promotes collaboration among project leadership and evaluators. It uses spiraling cycles of planning, acting, observing, and reflection. And it strives to create and maintain positive relationships in the context within which the project occurs.

The program evaluation will include both formative and summative reports using data gathered from the following tools:

*participant assessments of all training activities
*participant surveys and interviews
*qualitative, anecdotal data gathered by project coordinators/trainers and other DECA/TIE staff
*external evaluation data as required by the Gates Foundation